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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,905	06/04/2004	David C. Ahlgren	FIS920040024US1	3904
7590 04/06/2006			EXAMINER	
Andrew M. Calderon Greenblum and Bernstein P.L.C. 1950 Roland Clarke Place Reston, VA 20191			CRANE, SARA W	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,905

Applicant(s)

AHLGREN ET AL.

Examiner

Sara W. Crane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 27 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-16, 18 and 27 is/are rejected:
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-8, 13-16, 18 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims use terminology such as "formed over" or "deposited over" to mean, apparently, "located over." The examiner is not sure whether to interpret the terminology of "forming" or "depositing" as referring to actual method steps, or as referring simply to location. For example, claim 1 recites "an oxide layer formed over the collector region," which could correspond to layer 280 in figure 5, for example, which is actually "formed" over the underlying collector. But in claim 2, "a base region" is to be "deposited on a top surface of the emitter region," which does not appear to correspond to any deposition step described in the specification. It appears to the examiner that the emitter (240 in figure 2) is deposited on the underlying base (225), and then the device is flipped over. So the final product has the base *located* on a top surface of the emitter region, but the base was not actually deposited in that fashion. So are the "forming" and "depositing" limitations to be understood as referring to actual steps of forming and depositing, or as merely specifying location?

Claim 13 is similarly unclear, where it recites "an oxide layer deposited about at least one side and on a surface of the collector region." The device of figure 4, for example, after "flipping" shows one oxide layer 215 which was deposited about the sides of the collector. Then a second oxide layer 280 in figure 5 is deposited on a

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surface of the collector. Are these two oxide layers in the figures supposed to correspond to the single oxide layer of claim 13? There does not seem to be any single oxide layer that would meet the method limitation recited. Also, in lines 5-6 of this claim, "a substrate" is recited. Substrate usually refers to the lowest or base layers of a structure. Is that the intention here? Is the substrate that the collector is electrically isolated from a layer such as 275 in figure 8. Or does substrate refer here to a layer on which the collector was actually formed, before being flipped?

Claim 27 also refers to deposition in a confusing fashion, reciting a "collector region which is deposited with the oxide layer." Is there really some sort of simultaneous deposition of collector and oxide? What is meant by "deposited with"?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, insofar as understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Wensink et al.

The cover figure of the reference shows a device having an active region including collector 6, oxide layer 3 formed over the collector region and having a conductive pathway in electrical contact with the collector region, at 11 and 14. There is a collector metal contact deposited over the oxide layer and the conductive pathway (11


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is over the oxide via above 14). The conductive pathway (via above 14) provides electrical contact between the collector metal above the via and the collector region below.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (571) 272-1652.

The supervisor for Art Unit 2811, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sara W. Crane
Primary Examiner
Art Unit 2811